

Commonwealth of Kentucky
Division for Air Quality
PROPOSED PERMIT STATEMENT OF BASIS

PROPOSED TITLE V PERMIT NO. V-04-058

OWLS HEAD ALLOYS, INCORPORATED

BOWLING GREEN, KY.

DECEMBER 15, 2004

BRIAN SMITH, REVIEWER

PLANT I.D. # 021-227-00135

APPLICATION LOG # 56546

CURRENT STATUS:

On November 3, 2004, the Division issued a preliminary determination on the Title V permit for Owls Head Alloys, Incorporated in Bowling Green, Kentucky. This permit was made available for public review and comment. The public comment period for this action ended on December 3, 2004. There were no comments made during the public comment period. No significant changes were made to the permit.

In conclusion, a thorough analysis has been made of all relevant information available that pertains to this source. The Division has concluded that compliance with the terms of the permit will ensure compliance with all air quality requirements. Therefore, it is the Division's determination that a proposed Title V permit should be issued as conditioned. The U.S. EPA has 45 days from the date of this issuance to submit comments. If no comments are received during this period, the Division considers the permit final as conditioned. With this issuance, all open permit applications have now been addressed. Any modifications must be submitted in their entirety to be considered for review.

CREDIBLE EVIDENCE:

The permit described in this document contains provisions that require specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has not incorporated these provisions in its air quality regulations.

Commonwealth of Kentucky
Division for Air Quality
DRAFT PERMIT STATEMENT OF BASIS

DRAFT TITLE V PERMIT NO. V-04-058

OWLS HEAD ALLOYS, INCORPORATED

BOWLING GREEN, KY.

OCTOBER 15, 2004

BRIAN SMITH, REVIEWER

PLANT I.D. # 021-227-00135

APPLICATION LOG # 56546

GENERAL SOURCE DESCRIPTION:

Owls Head Alloys, Incorporated operates a secondary aluminum processing facility in Bowling Green, Kentucky. The company brings in scrap aluminum (from beverage cans) for smelting in a tilted rotary furnace. The dross waste from the smelting process is temporarily stored on site and then hauled off by a disposal company which, in turn, landfills the material. A lime injected baghouse is attached to control emissions of particulate matter as well as acid gas emissions from reactive fluxing of the furnace. The smelting process also results in very low emissions of dioxins and furans.

Owls Head has submitted an application for permit revision to expand their operation. This application was received by the Division on May 10, 2004 and deemed complete on July 9, 2004. Additional information was requested by the Division and received on July 19, 2004. Emission points 1 through 4 are existing points; this application is for emission points 5 through 8.

Currently, Owls Head operates under a conditional major permit with limits on HCl emissions to avoid Title V. The new construction will cause emissions of HCl to exceed 10 tons per year. Therefore, Owls Head will be issued a Title V permit.

CREDIBLE EVIDENCE:

The permit described in this document contains provisions that require specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has not incorporated these provisions in its air quality regulations.

INDIVIDUAL UNIT, OPERATION OR ACTIVITY EMISSION AND OPERATING CAPS:

EP#1, EIS#1 (Oxy/Fuel Tilting Rotary Furnace)

EP#5, EIS#5 (Oxy/Fuel Tilting Rotary Furnace)

Applicable Regulations: 40 CFR 63, Subpart RRR-National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production

401 KAR 59:010, New Process Operations

Regulations that may appear to be applicable but are not: None

Specific Operating Limitations:

Owls Head shall comply with the following operating limitations for each furnace:

a. Maintain the 3-hour block average inlet temperature for each fabric filter at or below the average

- temperature established in the performance test, plus 14° C (25° F). [40 CFR 63.1506(m)(3)]
- b. Maintain free-flowing lime in the hopper to the feed device at all times and maintain the lime feeder setting at the same level as established during the performance test. [40 CFR 63.1506(m)(4)]
 - c. Maintain the total reactive flux injection rate for each operating cycle or time period used in the performance test at or below the average rate established during the performance test. [40 CFR 63.1506(m)(5)]
 - d. Owls Head Alloys, Incorporated shall post and maintain easily visible labels at each furnace that identifies the applicable emission limits and means of compliance, including;
 - (i) the type of affected source or emission unit;
 - (ii) the applicable operational control standards and control methods. This includes but is not limited to the type of charge to be used for a furnace, flux, materials and addition practices, and the applicable operating parameter and requirements as incorporated in the OM&M plan.
 - e. Initiate corrective action within 1 hour of a bag leak detection system alarm. [40 CFR 63.1506(m)(1)]
 - f. Complete the corrective action procedures in accordance with the OM&M plan. [40 CFR 63.1506(m)(1)]
 - g. Operate each fabric filter system such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month block reporting period. In calculating this operating time fraction, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm shall be counted as a minimum of 1 hour. If the owner or operator takes longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by the owner or operator to initiate corrective action.
 - h. Maintain and operate a device to measure the weight of charge.
 - i. Maintain an OM&M plan.
 - j. Operate a device that records the weight of each charge, in accordance with the OM&M plan;

Specific Emission Limitations:

Each furnace shall comply with the following emission limitations:

- a. 15 µg of D/F TEQ per Mg (2.1×10^{-4} gr of D/F TEQ per ton) of feed/charge [40 CFR 63:1505 (i)(3)].
- b. 0.20 kg of HCl per Mg (0.40 lb of HCl per ton) of feed/charge or 10% of the uncontrolled HCl emissions by weight [40 CFR 63:1505 (i)(4)].
- c. 0.20 kg of PM per Mg (0.40 lb of PM per ton) of feed/charge [40 CFR 63:1505 (i)(1)].
- d. 10.90 lb per hour of PM [401 KAR 59:010].
- e. 20 % opacity of visible emissions as determined by Reference Method 9 of Appendix A to 40 CFR 60, incorporated by reference in 401 KAR 59:010.

Specific Monitoring Requirements:

Owls Head shall monitor the following:

- a. The stack testing parameters;
- b. The monthly hours of operation and process rate for the furnace for the same operating cycle or time period used in the performance test;
- c. Annual inspection of emission capture and collection system;
- d. Once per every 8 hours inspect lime injection device to confirm settings are the same as those used in the performance test.
- e. The total reactive chlorine injection flux rate, by weight, for each 15-minute block period, during which reactive fluxing occurs, over the same operating cycle or time period used in the performance test;
- f. Visible emissions on a annual basis using EPA Reference Method 9 for 3 six-minute runs

- consistent with the 40 CFR 60 Appendix A;
- g. Fabric filter inlet temperature in 15-minute block averages and calculate and record the average temperature for each 3-hour block period;
 - h. Once per month the labels shall be inspected to confirm that labels are intact and legible.

In accordance with 40 CFR 63.1510 (w), the permittee may submit an application to the Division for approval of alternate monitoring requirements to demonstrate compliance with the emission standards of Subpart RRR, subject to the provisions of paragraphs 63,1510 (w)(1) through (6).

EP#2 (Paved Haul Road)

Applicable Regulations: 401 KAR 63:010, Fugitive Emissions

Regulations that may appear to be applicable but are not: None

Specific Operating Limitations:

The permittee shall take reasonable precaution to prevent fugitive dust emissions from becoming airborne. Visible dust emissions beyond the property line are prohibited.

[401 KAR 63:010]

Specific Emission Limitations: None

Specific Monitoring Requirements: None

EP#3, EIS#2 (Paved Storage Area)

Applicable Regulations: 401 KAR 63:010, Fugitive Emissions

Regulations that may appear to be applicable but are not: None

Specific Operating Limitations:

The permittee shall take reasonable precaution to prevent fugitive dust emissions from becoming airborne. Visible dust emissions beyond the property line are prohibited.

[401 KAR 63:010]

Specific Emission Limitations: None

Specific Monitoring Requirements: None

EP#4, EIS#3 (Dross and Salt Cake Handling/Storage)

EP#6, EIS#6 (Dross and Salt Cake Handling/Storage)

Applicable Regulations: 401 KAR 63:010, Fugitive emissions

401 KAR 53:010, Ambient air quality standard

Regulations that may appear to be applicable but are not: None

Specific Operating Limitations:

a. The permittee shall take reasonable precautions to prevent fugitive dust emissions from becoming airborne. Visible fugitive dust emissions beyond the property lines are prohibited. [401 KAR 63:010]

b. The permittee shall take reasonable precautions to prevent ammonia emissions from being detected beyond the property line. [401 KAR 53:010]

Specific Emission Limitations:

Each point shall comply with the following emission limitations:

a. 5.17 lb per hour of PM [401 KAR 59:010].

b. 20 % opacity of visible emissions as determined by Reference Method 9 of Appendix A to 40 CFR 60, incorporated by reference in 401 KAR 59:010.

Specific Monitoring Requirements:

The permittee shall monitor the monthly hours of operation and process rate.

EP#7, EIS#7 (Outside Dross/Salt Cake Storage Bins and Loadout)

Applicable Regulations: 401 KAR 63:010, Fugitive emissions

Regulations that may appear to be applicable but are not: None

Specific Operating Limitations:

The permittee shall take reasonable precaution to prevent fugitive dust emissions from becoming airborne. Visible dust emissions beyond the property line are prohibited. [401 KAR 63:010]

Specific Emission Limitations:

This point shall comply with the following emission limitations:

- a. 7.94 lb per hour of PM [401 KAR 59:010].
- b. 20 % opacity of visible emissions as determined by Reference Method 9 of Appendix A to 40 CFR 60, filed by reference in 401 KAR 59:010.

Specific Monitoring Requirements:

The permittee shall monitor the monthly hours of operation and process rate.

EP#8, EIS#8 (4 Crucible Burners, Insignificant Activity)

Applicable Regulations: 401 KAR 59:010, New Process Operations

Regulations that may appear to be applicable but are not: None

Specific Operating Limitations: None

Specific Emission Limitations: None

Specific Monitoring Requirements: None

PLANT-WIDE EMISSION AND OPERATING CAPS:

Plant-wide Applicable Regulations: 401 KAR 52:020, Title V Permits

Regulations that may appear to be applicable but are not: 401 KAR 51:017, Prevention of Significant

Deterioration

Plant-wide Operating Limitations: None

Plant-wide Emission Limitations: None

Plant-wide Monitoring Requirements: None

DETAILED UNIT DESCRIPTIONS AND BASIS FOR PERMIT CONDITIONS:**EP#1, EIS#1 (Oxy/Fuel Tilting Rotary Furnace)****EP#5, EIS#5 (Oxy/Fuel Tilting Rotary Furnace)**

Each furnace has a capacity of 6 tons per hour (running dross as a worst case). The furnaces are capable of running scrap as well as dross. A detailed listing of the types of scrap and dross that are used are included in the application as confidential business information. The salt flux rate is 5% for scrap and 12% for dross. Emission calculations are based on engineering estimates. Particulate and acid gas emissions are controlled by lime injection baghouses operating at 70,000 CFM with a lime feed rate of 29 lbs/hr that has a capture efficiency of 90% and a control efficiency of 99.5% for particulate matter. An overall control efficiency of 99.5% is estimated for acid gas control.

EP#2, EIS#2 (Paved Haul Road)

Emission factors are based on AP-42.

EP#3, EIS#3 (Paved Storage Area)

Emission factors are based on AP-42.

EP#4, EIS#4 (Dross and Salt Cake Handling/Storage)

EP#6, EIS#6 (Dross and Salt Cake Handling/Storage)

These are enclosed facilities approximately 30 feet by 30 feet in size. EP#4 is ducted to baghouse #1, and EP#6 ducted to baghouse#2. Emission factors are based on AP-42.

EP#07, EIS#7 (Outside Dross/Salt Cake Storage Bins and Loadout)

The outside storage bins are for dross and salt cake and are covered. The potential throughput for the storage bins is 7,200 lbs/hr. There are 7 bins with a total area of 22,172 square feet. The outside dross and salt cake bins also have loadout points for loading and unloading. This loadout is hooded and ducted to baghouse #2. The processing rate is 7,200 lbs/hr. Emission factors are based on AP-42.

EP#8, EIS#8 (Crucible Burners, Insignificant Activity)

There are 4 crucible burners, each using natural gas. Emission factors are from AP-42 for natural gas combustion.